System Tables

Define User Fields

The PAVER system is designed so that you may assign user defined fields to each level of the inventory (network, branch, and section.) The advantage of this capability is that PAVER allows you to sort the database at any level according to criteria that you have defined. This is helpful if you want to select certain networks, branches, or sections for reports or work plans. There are two types of user defined fields. **SORT** fields are designed to be pick list fields, requiring you to select among a predefined set of choices. **Additional User Fields** require the user to enter data.

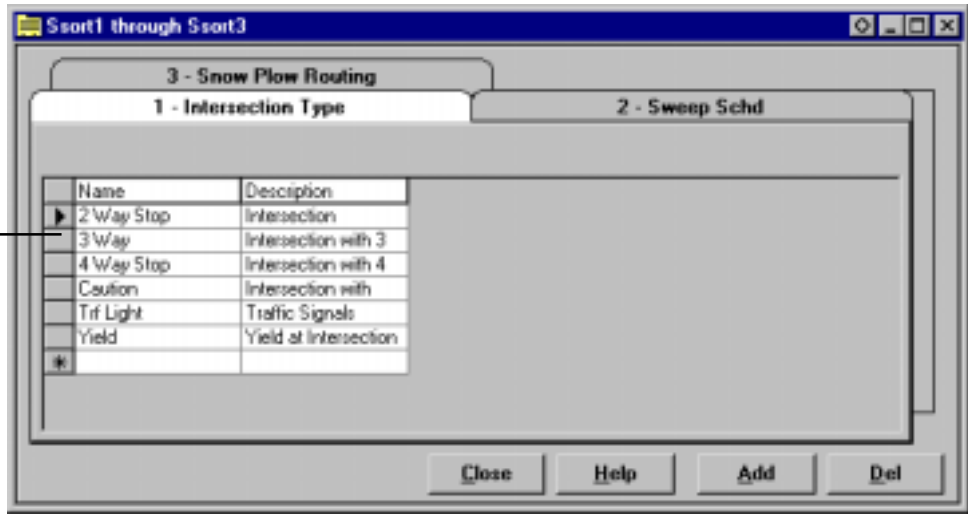
NSORT - BSORT - SSORT

Note

To change the default name given on a **SORT** tab, see **Customize NSort, BSort, SSort Headings**.

At each level of the Inventory hierarchy (network, branch, and section), PAVER allows you to create three **SORT**s. Under the main menu, select **Tables**...**Define User Fields**...**SORT** for the desired level of inventory. Enter data by clicking on the field you wish to edit. The entries for **Name** should be short and easily recognizable since these will be displayed in PAVER as the options presented in the picklist for the **SORT** field. The **Description** entry should indicate the complete name. Click **Add** to add more entries for the sort, and click **Delete** to delete the selected entry. The selected entry is indicated by an arrow in the left margin. To assign criteria for the other two **SORT**s, click on their corresponding tabs.

Sample entries for SSORT by intersection type



Additional User Fields

This section allows you to create user-defined fields in which you may enter data. From the PAVER main menu, select **Tables**...**Define User Fields**...**Additional User Fields**. To create a new field, first select the desired inventory level and click on **New**. A second window appears. You need to supply the following information:

• **Field Name** - The entry for this is displayed as the **Additional User Field** name when using this capability in PAVER.

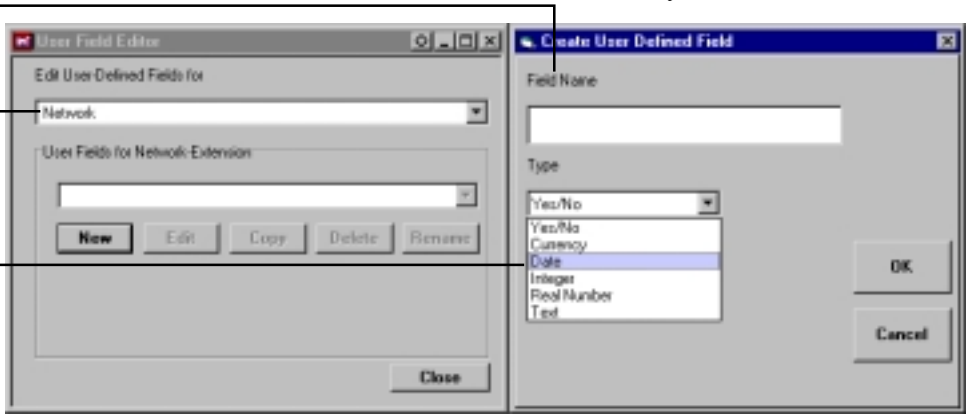
• **Type** - Designate what kind of data is to be put into the field: Yes/No, Currency, Date, Integer, Text, etc. When you use the **Additional User Field** in PAVER, you are only able to enter data of the **Type** you specify.

To edit the **Type** of an already existing entry, select it from the list of **User Fields** and click on **Edit**. To copy the field, click on **Copy** and assign a new name for the field. **Delete** deletes the selected field, and **Rename** allows you edit the **Field Name**.

Name of user defined field

Select Inventory level

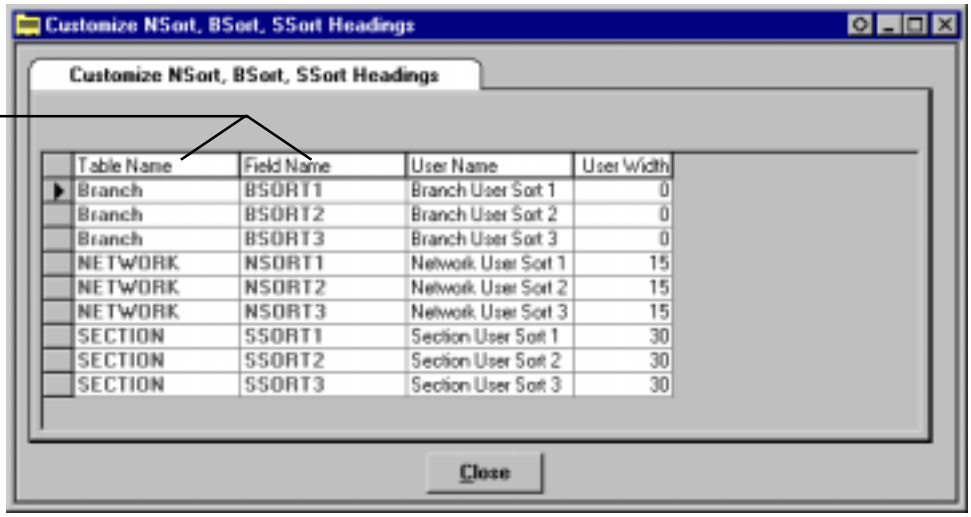
Type of data to be input in field



Customize NSort, BSort, SSort Headings

This window allows you to set the values for the **User Name** (the name displayed in PAVER) and the **User Width** (the size of the field) for selected preset fields in PAVER. The first two fields, **Table Name** and **Field Name**, are displayed in italics and cannot be edited.

Table Name and **Field Name** cannot be edited



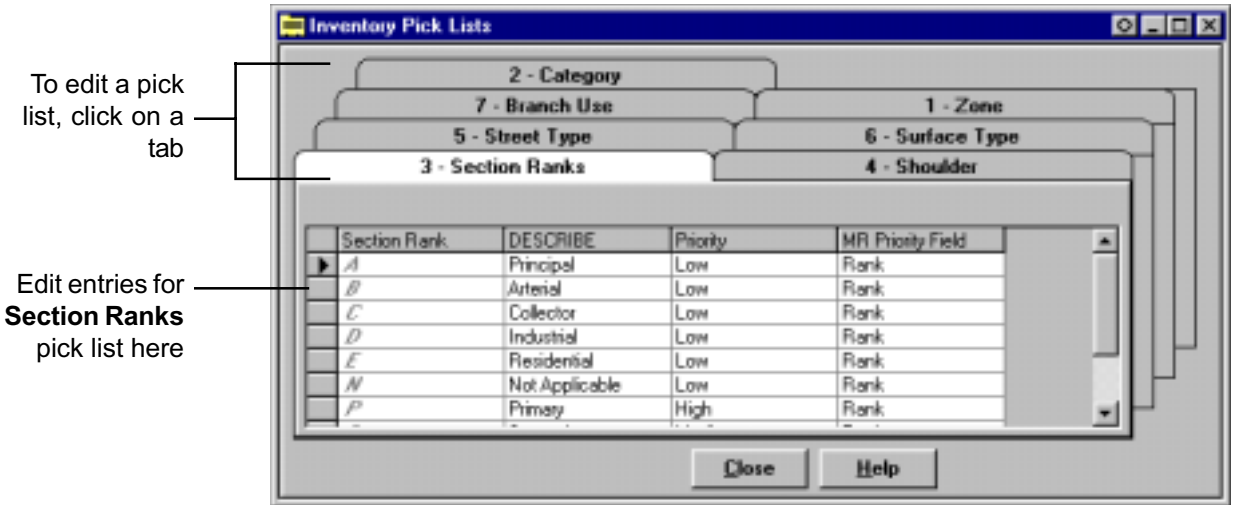
Inventory Pick Lists

Note

On the **Section Ranks** tab, you are not able to add entries or edit the already existing section rank names.

This window displays seven tabs that provide editing access to a group of "pick lists" within PAVER. All of these tabs allow you to add items to the current list. In some cases, existing table data is considered to be default and cannot be deleted. In most areas, PAVER will direct the process of data input to conform to the necessary PAVER database formatting. Some fields allow you to enter any text value, while other fields produce a prompt to the user to select an option from a list that is displayed. Examples of using this window are:

- Customizing **Zone** names
- Naming a new **Surface Type**
- Adjusting M&R Priorities for different Rankings.



Clicking **Add** adds a new record to the table. Before clicking **Delete**, first highlight the desired record by clicking on the box at the left of the record. PAVER asks you to confirm every Delete action.

M&R Plan Tables

All tables found under this category are tables that PAVER uses when executing the M&R plan. Like previous tables, most of these tables allow you to add items and delete non-default items. To edit a cell in the table, click on the cell you wish to edit and enter the new value. Once changes are made, they are automatically saved to the system. A brief description of each table follows.

Note

For more information on **M&R Work Plan** execution, see page 85.

Localized M&R

• **Work Types**: A listing of all work types classified as localized repairs.

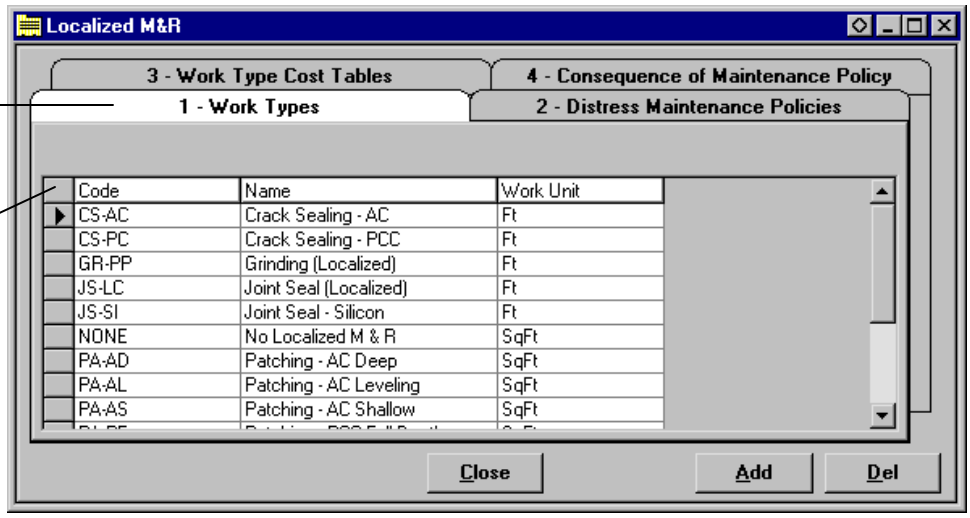
• **Distress Maintenance Policies**: You can define separate tables and group different localized work types for different maintenance scenarios.

• **Work Type Cost Tables**: You can create different cost tables to correspond with different jobs or regions. There must be a cost entered for all work types listed.

• **Consequence of Maintenance Policy**: For every work type listed in the localized category, there is an associated table here. Each table consists of a list of all distresses related to this work type and the resulting distress produced as a result of performing this type of work. This assists the **Work Plan** in predicting future PCI's.

Cost scenarios for **Localized** work

All **Localized Work Types** are listed here



Global M&R

• **Work Types**: This is a listing of all work types considered Global. This includes M&R work applied over a larger area of pavement. Other data included in this table is the **Application Interval** that work would be reapplied and the **Delta Age**, or change in age, of the pavement. This "Delta" is defined as the time (in years) it would take for the condition of the pavement to return to where it was prior to application of the global treatment. Again, the M&R Plan uses these numbers when predicting condition.

• **Cost**: This is similar to **Localized**. The user can create different cost tables depending on the scenario.

Major M&R

• **Work Types**: All work types considered to be major are listed here.

• **Work Type Cost Tables**: All costs associated with **Major M&R** work types are listed here.

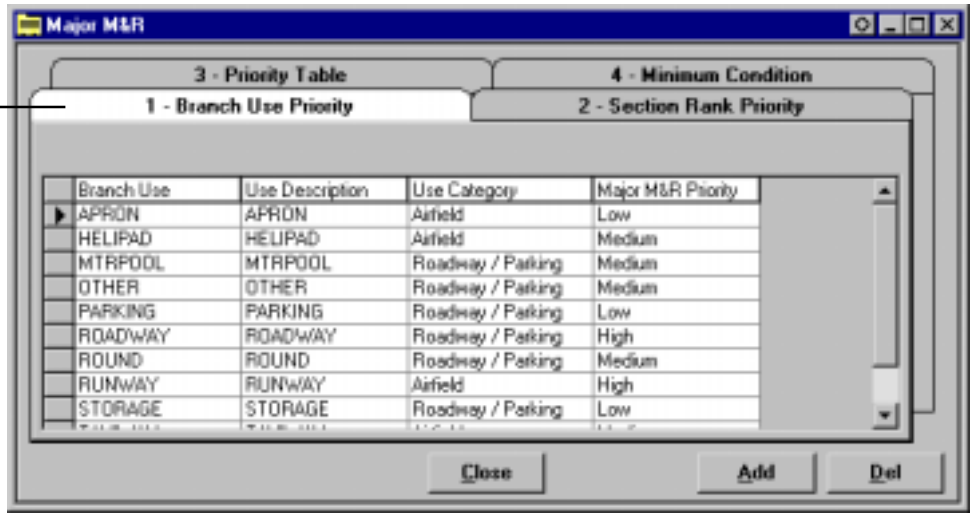
• **Branch Use Priority**: The user has the ability to assign a priority to pavements based on their declared usage. This priority is considered during M&R Plan execution and determines how limited funds are spent.

• **Section Rank Priority**: The user may assign a priority to pavements based on section rank.

• **Priority Table**: This is a priority matrix based on Branch Use Priority and Section Ranking. The lower the number, the higher the priority.

• **Minimum Condition**: This table allows the user to set the **Minimum Condition** or critical PCI. A critical PCI (or **Minimum Condition**) is set for the combination of each **Branch Use**, **Section Rank**, and **Year** combination.

Select priority for **Major M&R** for each **Branch Use**



M&R Cost by Condition

This window allows the user to create cost tables for different scenarios. Costs are grouped into four categories:

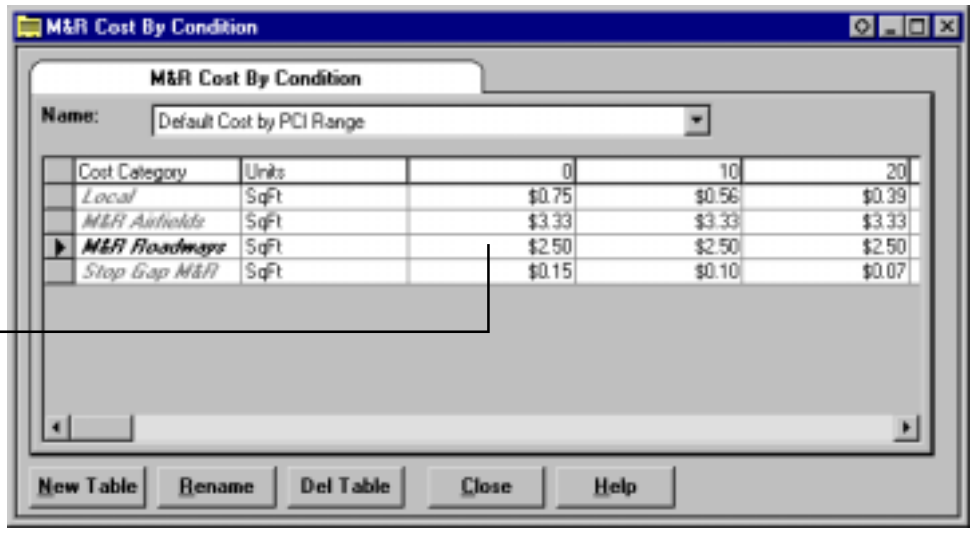
• **Local**: These costs refer to localized repair work triggered in the M&R Plan in the "Policy > Critical" section.

• **Stop Gap M&R**: These are localized repair costs triggered in the "Policy < Critical"

• **M&R Airfields**: This is a cost list of major M&R work done on all pavements that fall into the "Airfields" category.

• **M&R Roadways**: These are costs associated with major work done on all pavements classified as "non-airfield", such as roads, parking lots, etc.

For the above cost tables, the costs are for doing work "by condition". Enter an estimate on the pavements based on a range of conditions from 0 to 100 by increments of 10. The unit cost to perform work are generally less for a pavement with a better condition. However, you can create tables and customize them in a way that reflects the actual cost of doing work. The **M&R Plan** uses these figures to calculate budgets for all years beyond the first. Click on **New Table** and enter a name for your cost by condition scenario. Click on any cell you wish to edit and type in the new value.



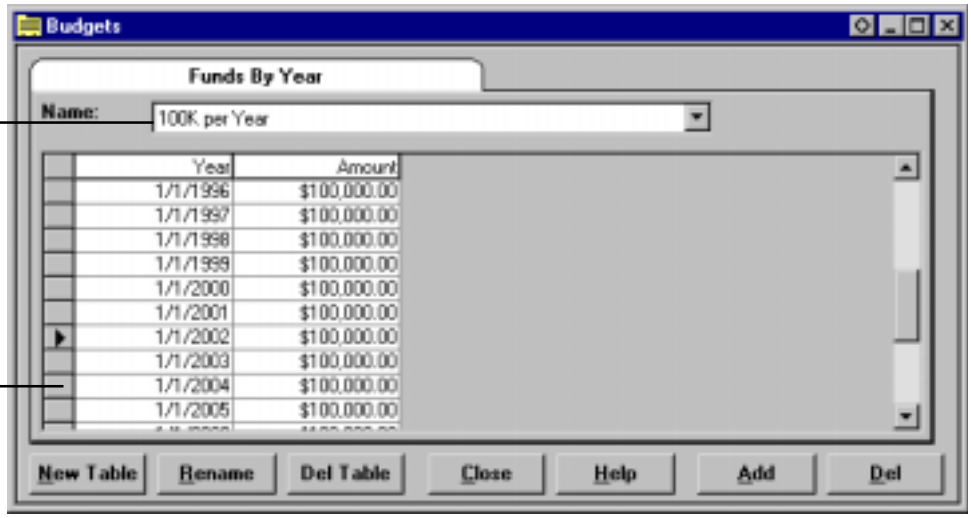
Cost per square foot for major M&R done on roadways with PCI of 0 to 9

Hint

You can create a budget of $10,000/Year and use the Budget multiplier feature in the **M&R Work Plan**.

Budgets

Here, you can create tables to specify a budget for each year. When running the **Work Plan**, you can select from a list of budgets. To create your own budget, click on **New Table**. You are given the option of copying the budget that is displayed. When creating a new table, select the copy option to save time entering data if most values are the same. Enter **Year** and budget **Amount** information. By placing actual budget numbers in a budget table, you can restrict the spending of the work plan to a specific budget. Creating different budget tables also allows you to compare the results of different **Work Plan** scenarios.



All budgets in your system are listed here

Enter a budget amount for each year

Condition Tools

Select Condition Types

To make condition types available for use in PAVER, they must be declared in this window. Condition types will be classified as **Numeric** or **Textual**. You may declare **Minimum** and **Maximum Values** for **Numeric Condition Types**. To make a condition available for use in PAVER choose "yes" in the **Selected** column. If you would like to keep the condition data in the table for future use but do not wish to make it accessible, a "no" in the **Selected** field hides the condition from the program.

Define Condition and Age Categories

The user may establish a set of categories for each condition available in PAVER. The table for each set of condition categories consists of a name for the category (i.e. "Good", "Poor", etc), a high and low value to establish the range for the category, and associated colors for each category to be used in the graph and GIS text. The **Age Categories** tab is simply a table of age brackets by which you can group pavements. These tables are used in the graphical display of condition information throughout PAVER.

Define User Distress Indices

New

You may now create your own condition index based on your selection of distresses.

You have the option to create a user defined index. These indices are computed with the same engine that PAVER uses to calculate the PCI, so the index is a customized PCI. After naming the index, select every distress and severity level that is to be included in the computation. At this point, PAVER then uses deduct values from only the specific distresses indicated. Other distresses are ignored for this index. After naming the index and selecting the applicable distresses, this distress appears on the **Numeric Condition Types** tab of the **Condition Type Selection** table. The only way to delete the newly created index is to return to the **User Defined Distress Indices** table.

Misc. Other Tables

There are four tables here that allow you to enter specific information into PAVER:

Aircraft Type

This table holds information on a variety of aircraft and will be used in later versions of PAVER to catalog airfield traffic and its effect on pavement condition.

Materials

This table is a list of all material types, with **Item** number and **Description**, that are available for selection within PAVER. These are used in the **Work** section of PAVER, where you can list the specifics of work that has been performed, including the type of material used. You can add any material types to this list by entering an **Item** and **Description**.

Layer Construct

This table contains information on different work types associated with base preparation. In order to enter a line item of work specifically for base course, establish the work type in the **Layer Construct** table. The information on these lists is accessible from **Work**, under the **History** tab.

Unit of Measure (Field) Settings

Here, select a particular unit from a pick list to be associated with measurements used within PAVER.